



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,929	12/13/2001	Katrina G. Desroches	PGI6044P0271US	2205

32116 7590 11/14/2005

WOOD, PHILLIPS, KATZ, CLARK & MORTIMER
500 W. MADISON STREET
SUITE 3800
CHICAGO, IL 60661

EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,929

Applicant(s)

DESROCHES ET AL.

Examiner

Norca L. Torres-Velazquez

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 15, 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Response to Arguments

1. Applicant's arguments filed August 29, 2005 have been fully considered but they are not persuasive.

a. Applicants argue that the molded construct, formed in accordance with their novel process, is not taught or suggested by the cited references. Applicants argue that by *controlling the thermal history* of the construct components, the physical properties of the resulting construct are desirably enhanced. Applicants argue that the Frank reference does not contemplate a cooling step and that an enhanced stiffness is not inherent in Frank.

It is noted that there is no evidence of record that the product of FRANK reference or the product of WEINLE et al. in view of FRANK is different from the product claimed herein. It is noted herein that the prior art of record provides a molded construct that involves the application of changes in temperature during different steps. It is the Examiner's interpretation that the process used by the FRANK reference produces the same final product.

It is the examiner's position that the molded construct of the FRANK reference is identical to or only slightly different than the molded construct prepared by the method of the claim(s), because both molded construct are made by a fibrous matt and/or pre-form that uses a heat activated binder component (second thermoplastic fibers), that is heated to the activation temperature of the second thermoplastic fibers (incubated) then cooled, the molded article shows stiffness for use in automotive applications). Even though product-by-process claims are limited by and defined by the process, determination of

patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). The FRANK reference either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the FRANK reference. The burden is shifted to Applicants to prove that their process results in a materially different product.

b. New rejection under 35 U.S.C. 112, second paragraph is included herein.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 12, 15 and 19-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites the limitation ""of at least 15% greater than a molded construct devoid of an incubated and cooled fibrous pre-form.."" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim. It is noted that the

Art Unit: 1771

term "pre-form" is not positively recited in the claim. Applicants are comparing a molded construct of the prior art that is devoid of an incubated and cooled fibrous pre-form... how that compares to the present invention? Nowhere in the claim a pre-form is claimed.

Further, the claim ends in two periods. Claims 15 and 19-22 are rejected as being dependent on claim 12.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 12, 15 and 19-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over FRANK (US 5,492,580).**

FRANK relates to nonwoven composite materials adapted for thermoforming that have enhanced stiffness/weight ratios and enhanced resistance to shrinkage during thermoforming. (Col. 1, lines 10-16). The reference teaches the use of the nonwoven composite materials in applications such as trunk liners, dash panel or any other type of part. (Col. 1, line 29; Col. 2, line 19). The shaped nonwoven molded composite material is made by forming a batt of thermoplastic fibers that includes first fibers and second fibers with the second fibers having a

Art Unit: 1771

melting point lower than that of the first fibers. The batt is needle punched or stitch bonded into a nonwoven porous consolidated structure, and then the structure is heated to a temperature below the melting point of the first fibers and above the melting point of the second thermoplastic fibers. The structure is compressed and cooled to form a moldable composite material having substantially reduced air voids. Then the moldable composite material is thermoform molded into a shaped nonwoven molded composite material. (Refer to claim 1)

It is the Examiner's interpretation that the second thermoplastic fibers of the reference equate to the heat activated binder component of the fibrous mat of the present invention and that the thermoform molding step of the reference equate to the step to form the final molded construct of the present invention. The moldable composite material is equated to the presently claimed "incubated and cooled fibrous pre-form".

Although FRANK does not explicitly teach the claimed stiffness performance of at least 15% greater than a molded construct devoid of an incubated and cooled fibrous pre-form it is reasonable to presume that an enhanced stiffness is inherent to the molded construct of FRANK. Support for said presumption is found in the use of like materials (i.e. the batt structure includes heat activated binder component (second thermoplastic fibers), that is heated to the activation temperature of the second thermoplastic fibers (incubated) then cooled). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of a greater stiffness performance of at least 15% would obviously have been present one the FRANK product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102.

6. Claims 12, 15 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over WEINLE et al. (US 4,840,832) in view of FRANK (US 5,492,580).

WEINLE et al. discloses a textile-based product for use as a headliner that is formed from a batt of polymeric fibers compressed and molded into the desired headliner shape. (Column 1, lines 67-68 through Column 2, lines 1-2) The polymeric fibers of the batt preferably include potentially adhesive binder fibers which are thermally activated during the molding of the batt to bond together the fibers of the batt at their crossover points, thereby maintaining the batt in its molded shape while providing resiliency and flexibility to the batt. The reference teaches the use of bicomponent fibers having a relatively low melting polymer binder component and a higher melting polymer strength component as binder fibers. (Column 2, lines 9-17) The reference teaches the use of a sheath-core bicomponent construction wherein the core is formed of a relatively high melting polyethylene terephthalate (PET) polymer and the sheath comprises a PET copolymer having a much lower melting temperature and which exhibits thermoplastic adhesive and thermoformability properties when heated to a temperature of about 170 to 200 degree C. (Column 4, lines 24-31) WEINLE et al. further teaches the use of staple length fibers. (Column 4, lines 50-51) WEINLE et al. also teaches applying heat at a temperature and for a time sufficient to activate the potentially adhesive characteristics of the thermoplastic binder fibers, molding and cooling the batt. (Column 5, lines 65 through Column 6, lines 1-5)

The reference further teaches the steps involved in producing the nonwoven batt that involves blending the textile staple fibers, than formed into a web by air-laying, garneting or carding, the web may be crosslapped, optionally needled to form a coherent self-sustaining batt or alternatively, heat stabilized. (Refer to Column 5, lines 45-62). It is further noted that the

Art Unit: 1771

WEINLE et al. reference teaches the use of those materials described by Applicants in the Specification. (i.e. staple length fibers, sheath-core bicomponent fibers with a polyester core component and a co-polyester sheath component as a binder fiber, mechanical entanglement for pre-consolidation).

While WEINLE et al. teaches that the web may be heat stabilized by passing heated air or steam through the batt, it fails to expressly disclose that the temperature at which is heated is the activation temperature of the binder component and that then it is cooled.

FRANK relates to nonwoven composite materials adapted for thermoforming that have enhanced stiffness/weight ratios and enhanced resistance to shrinkage during thermoforming. (Col. 1, lines 10-16). The shaped nonwoven molded composite material is made by forming a batt of thermoplastic fibers that includes first fibers and second fibers with the second fibers having a melting point lower than that of the first fibers. The batt is needle punched or stitch bonded into a nonwoven porous consolidated structure, and then the structure is heated to a temperature below the melting point of the first fibers and above the melting point of the second thermoplastic fibers. The structure is compressed and cooled to form a moldable composite material having substantially reduced air voids. Then the moldable composite material is thermoform molded into a shaped nonwoven molded composite material. (Refer to claim 1)

Since both references are directed to molded materials, the purpose disclosed by FRANK would have been recognized in the pertinent art of WEINLE.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify web of WEINLE and provide with a heat stabilizing step in which the structure is heating to activate the binder component and then cooling it prior to

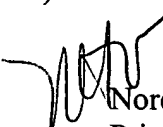
Art Unit: 1771

thermoform molding it with the motivation of producing a material that is resistant to shrinkage when subjected to subsequent thermoform molding and that has enhanced stiffness as disclosed by FRANK. (Refer to Claim 1 and Col. 1, line 15)

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-5:00 pm and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Norca L. Torres-Velazquez
Primary Examiner
Art Unit 1771

November 8, 2005